CLAIMS.

1. A cardiac valve which has a biological or biocompatible support associated to at least one compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

2. A cardiac valve as claimed in claim 1, characterized in that it is at least partially made from a polymer or copolymer compound or an at least partly cross-linked and biocompatible compound, associated to at least one compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

3. A cardiac valve as claimed in claim 1 or 2, characterized in that the biological or biocompatible support has, at least at its surface, one or more compounds having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

4. A cardiac valve as claimed in claims 2 and 3, characterized in that the biological or biocompatible support has, at least at its surface, one or more compounds having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, which are associated to the polymer or copolymer compound or to the at least partially cross-linked and biocompatible compound.

5. A cardiac valve as claimed in any claim 1 to 4, characterized in that it has the form of a biological tissue, stabilized at least partially by a polymer or copolymer compound or by an at least partially cross-linked and biocompatible compound, associated to at least one compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

6. A cardiac valve as claimed in claim 5,

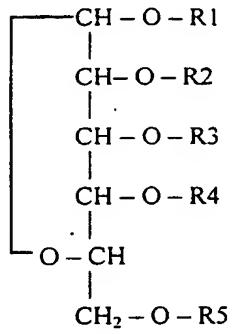
characterized in that the biological tissue is stabilized at least partially by an aldehyde, the aldehyde at the surface of the tissue or in the proximity thereof being at least partially associated to a compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

7. A cardiac valve as claimed in any claim 1 to 6, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, is selected from the group comprising tannins, tannic acids, salts of tannic acids, esters of tannic acids, hydrolysis products of salts and esters of tannic acids and tannins, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, hydrolysis products of esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of esters and salts of gallic acid and of digallic acid, shikimic acid, dehydroshikimic acid, salts and esters of shikimic acid and of dehydroshikimic acid, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

8. A cardiac valve as claimed in claim 7, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon is selected from the group comprising tannic acids, salts of these acids, esters of these acids, hydrolysis products of said salts and esters, and mixtures thereof.

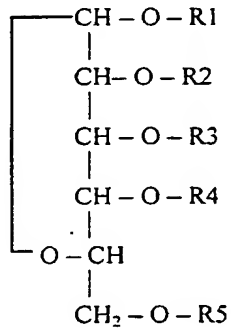
9. A cardiac valve as claimed in claim 7, characterized in that the compound having at least one

ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon is selected from the group comprising the tannic acids with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of esters and salts of these acids, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

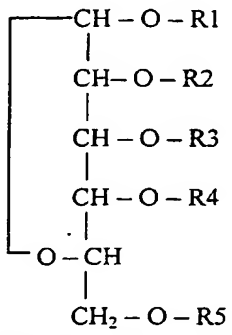
10. A cardiac valve as claimed in any preceding claim, characterized in that, at its surface, it has a layer containing at least one compound selected from the group comprising tannic acids with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or

digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

11. A cardiac valve as claimed in any preceding claim, characterized in that it has the form of a body having, both at its surface and inside the body, one or more compounds selected from the group comprising acids with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid, salts and esters of these tannic acids, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

12. A use of a support, advantageously of a biological support and/or a support containing a polymer or copolymer compound, and/or a support containing an at least partly cross-linked and biocompatible compound,

said support being associated to at least one compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, for preparing an animal or human implant, particularly a cardiac valve.

13. A use as claimed in claim 12, characterized in that the implant has, at least at its surface, one or more compounds having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, said compound/s being advantageously associated to the polymer or copolymer compound or to the at least partially cross-linked biocompatible compound.

14. A use as claimed in claim 12 or 13, characterized in that the implant has the form of a biological tissue, stabilized at least partially by a polymer, copolymer or at least partially cross-linked biocompatible compound, associated to at least one compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

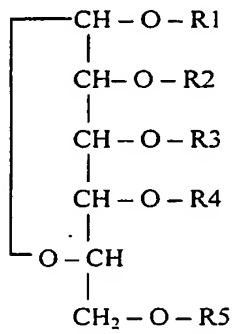
15. A use as claimed in claim 14, characterized in that the biological tissue is stabilized at least partially by an aldehyde, the aldehyde which is at least at the surface of the tissue or in the proximity thereof being at least partially associated to a compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

16. A use as claimed in any claim 12 to 15, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, is selected from the group comprising tannins, tannic acids, salts of tannic acids, esters of tannic acids, hydrolysis products of salts and esters of tannic acids and tannins, quinic acid, dehydroquinic acid,

esters and salts of quinic acid and of dehydroquinic acid, hydrolysis products of esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of esters and salts of gallic acid and of digallic acid, shikimic acid, dehydroshikimic acid, salts and esters of shikimic acid and of dehydroshikimic acid, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid, and mixtures thereof.

17. A use as claimed in claim 16, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon is selected from the group comprising hydrolyzable tannic acids, salts of these acids, esters of these acids, hydrolysis products of said salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid, and mixtures thereof.

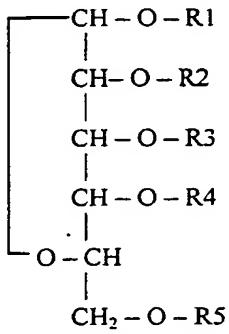
18. A use as claimed in claim 17, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon is selected from the group comprising the tannic acids with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or

digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of esters and salts of these acids, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

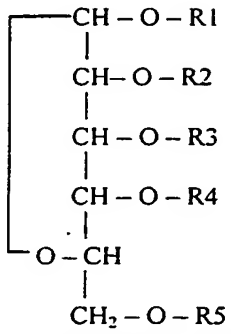
19. A use as claimed in any claim 12 to 18, characterized in that, at its surface, it has a layer containing at least one compound selected from the group comprising tannic acids with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids, and mixtures thereof.

20. A use as claimed in any claim 12 to 19, characterized in that the implant has the form of a body having, both at its surface and inside it, a compound

selected from the group comprising compounds with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid, salts and esters of these tannic acids, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids, and mixtures thereof.

21. A method for preparing an animal or human implant, comprising a support, advantageously a support associated to at least a polymer or copolymer compound, or to a partially cross-linked biocompatible compound, wherein this implant is treated with a solution containing a compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, or wherein said implant is at least partially prepared from a polymer or copolymer compound or from a cross-linkable biocompatible compound at least partially treated with a compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, and
wherein, following said treatment, said implant is sterilized and/or treated aseptically.

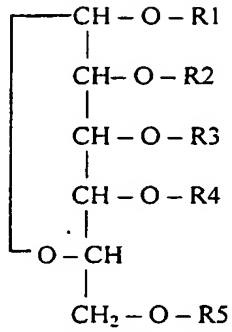
22. A method as claimed in claim 21, characterized

in that, as an implant, a biological tissue is used, which is stabilized at least partially by an aldehyde.

23. A method as claimed in claim 21 or 22, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, is selected from the group comprising tannins, tannic acids, salts of tannic acids, esters of tannic acids, hydrolysis products of salts and esters of tannic acids and tannins, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, hydrolysis products of esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of esters and salts of gallic acid and of digallic acid, shikimic acid, dehydroshikimic acid, salts and esters of shikimic acid and of dehydroshikimic acid, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids and mixtures thereof.

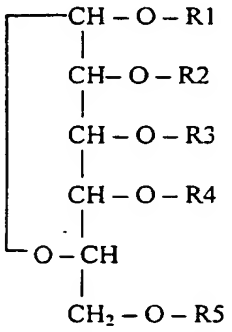
24. A method as claimed in claim 23, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon is selected from the group comprising tannic acids, salts of these acids, esters of these acids, hydrolysis products of said salts and esters, and mixtures thereof.

25. A method as claimed in claim 24, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, is selected from the group comprising the tannic acid with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of esters and salts of these acids, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids, and mixtures thereof.

26. A method as claimed in any claim 21 to 25, characterized in that the implant is treated with a solution containing a compound selected from the group comprising tannic acids with formula



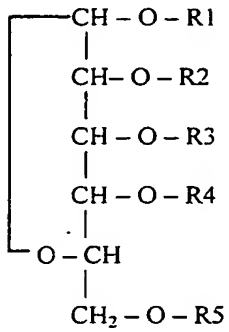
where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids;

quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids and mixtures thereof.

27. A method as claimed in any claim 21 to 26, characterized in that the implant is treated with a solution containing a compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, said solution having a pH of 3 to 9, particularly of 5.5 to 7.5.

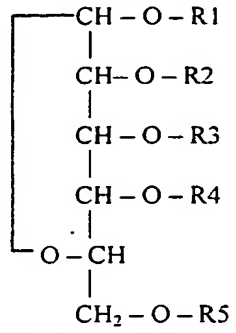
28. Pharmaceutical preparation containing, as an agent against calcification, especially in a blood circuit, particularly against calcification of a cardiac valve and of an implant in contact with blood, an effective amount of at least one compound selected from the group comprising: tannins, tannic acids, salts of tannic acids, esters of tannic acids, hydrolysis products of salts and esters of tannic acids and tannins, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, hydrolysis products of esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of esters and salts of gallic acid and of digallic acid, shikimic acid, dehydroshikimic acid, salts and esters of shikimic acid and of dehydroshikimic acid, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

29. A pharmaceutical preparation as claimed in claim 28, characterized in that it contains, as an agent against calcification of a cardiac valve and of an implant in contact with blood, an effective amount of at least one compound selected from the group comprising: the tannic acid with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of esters and salts of these acids, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids and mixtures thereof.

30. A preparation as claimed in claim 28, characterized in that it contains, as an agent against calcification, an effective amount of at least one compound selected from the group comprising: tannic acids with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids; hydrolysis products of these salts and esters vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

31. A preparation as claimed in any claim 28 to 30, characterized in that it has the form of a prolonged release preparation.

32. Support intended to be in contact with a biological medium, especially with a human or animal medium, such as implantable support, advantageously of a biological implantable support and/or an implantable support containing a polymer or copolymer compound, and/or an implantable support containing an at least partly cross-linked and biocompatible compound, said support being associated to at least one compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

33. The support of claim 32, characterized in that the support has, at least at one of its surface, one or

more compounds having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, said compound/s being advantageously associated to the polymer or copolymer compound or to the at least partially cross-linked biocompatible compound.

34. The support of claim 32 or 33, characterized in that the support has the form of a biological tissue, stabilized at least partially by a polymer, copolymer or an at least partially cross-linked biocompatible compound, associated to at least one compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

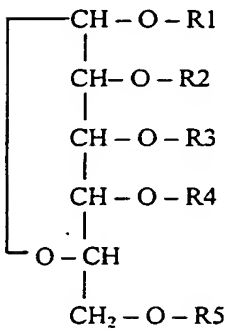
35. The support of claim 34, characterized in that the biological tissue is stabilized at least partially by an aldehyde, the aldehyde which is at least at the surface of the tissue or in the proximity thereof being at least partially associated to a compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon.

36. The support of claim 32 to 35, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon, is selected from the group comprising tannins, tannic acids, salts of tannic acids, esters of tannic acids, hydrolysis products of salts and esters of tannic acids and tannins, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, hydrolysis products of esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of esters and salts of gallic acid and of digallic acid, shikimic acid, dehydroshikimic acid, salts and esters of shikimic acid and of

dehydroshikimic acid, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid, and mixtures thereof.

37. The support of claim 36, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon is selected from the group comprising hydrolyzable tannic acids, salts of these acids, esters of these acids, hydrolysis products of said salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid, and mixtures thereof.

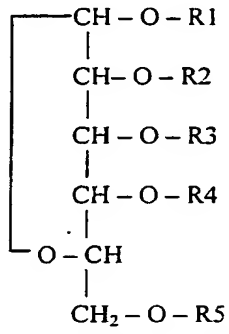
38. The support of claim 37, characterized in that the compound having at least one ring of 6 carbon atoms with at least two hydroxyl groups, preferably at least three hydroxyl groups thereon is selected from the group comprising the tannic acids with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of esters and salts of these acids, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of

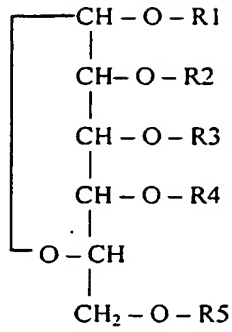
vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acid and mixtures thereof.

39. The support as claimed in any claims 32 to 38, characterized in that, at its surface, it has a layer containing at least one compound selected from the group comprising tannic acids with formula



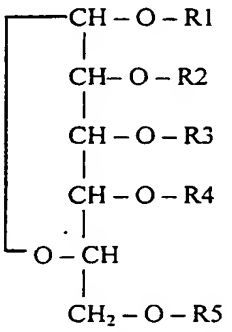
where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid; salts and esters of these tannic acids; quinic acid; dehydroquinic acid; esters and salts of quinic acid and of dehydroquinic acid; gallic acid; digallic acid; esters and salts of gallic acid and of digallic acid; hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids, and mixtures thereof.

40. The support as claimed in any claims 32 to 39, characterized in that the implant has the form of a body having, both at its surface and inside it, a compound selected from the group comprising compounds with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid, salts and esters of these tannic acids, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids, and mixtures thereof.

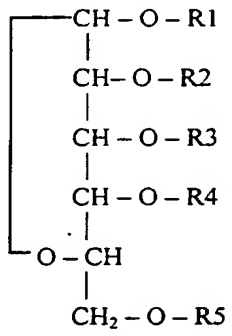
41. An aqueous stabilizing composition for a support selected from the group consisting of support intended to be in contact with a biological medium, implantable support, biological support, animal tissue, and human tissue, said composition containing:- at least an aldehyde in mixture with a compound selected from the group comprising compounds with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid, salts and esters of these tannic acids,

quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, condensation product of an aldehyde with said tannins or tannic acids, and mixtures thereof, or

- a compound selected from the group comprising compounds with formula

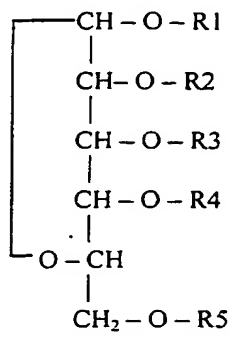


where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid, salts and esters of these tannic acids, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, in mixture with a condensation product of an aldehyde with the above mentioned tannins or tannic acids.

42. The composition of claim 41, characterized in that the pH of the composition is comprised between 3 to 9, advantageously between 5.5 and 7.5, preferably about 7.

43. The composition of claim 41 or 42, characterized in that it contains up to 10%,

advantageously less than 5%, preferably less than 2.5% by weight of a first compound selected from the group comprising compounds with formula

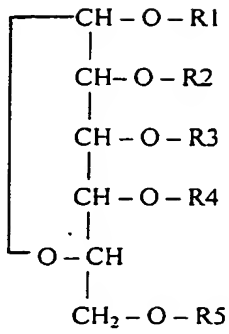


where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid, salts and esters of these tannic acids, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, and mixtures thereof, and up to 10%, advantageously less than 5%, preferably less than 2.5% by weight of an aldehyde and/or a condensation product of an aldehyde with said tannins or tannic acids.

44. The composition of any one of the claims 41 to 43, characterized in that it contains a phosphate buffer.

45. The composition of claim 43, characterized in that the weight ratio first compound/aldehyde is comprised between 1:10 and 10:1, advantageously 1:5 and 5:1.

46. A kit for preparing a composition of any one of the preceding claims 41 to 45, said kit comprising a first bottle containing, as a powder or in an aqueous solution, a compound selected from the group comprising compounds with formula



where R1, R2, R3, R4 and R5: the rest of gallic acid or digallic acid, salts and esters of these tannic acids, quinic acid, dehydroquinic acid, esters and salts of quinic acid and of dehydroquinic acid, gallic acid, digallic acid, esters and salts of gallic acid and of digallic acid, hydrolysis products of these salts and esters, vescalin, vascalagin, hydrolysis products of vescalin or vascalagin, esters and salts of vescalin and vascalagin, and

a second bottle containing an aqueous solution containing an aldehyde and preferably a phosphate buffer, the content of the said bottles having to be mixed together for preparing the stabilizing solution.